

**TRANSMITTAL LETTER**  
**(General - Patent Pending)**

Docket No.  
NL000349

In Re Application Of: **Haitsma et al.**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
09/886,064	06/21/2001	Chen, S.	23550	2131	6071

Title: **WATERMARK EMBEDDING METHOD AND ARRANGEMENT**

COMMISSIONER FOR PATENTS:

Transmitted herewith is:

- Brief of Appellants in 9 pages in Response to the Notification of Non-Compliant Appeal Brief
- 2 Return Receipt Postcards

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Signature

Dated: November 16, 2005

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Appellants: Haitsma et al.  
Serial No.: 09/886,064  
Filed: June 21, 2001  
For: Watermark Embedding Method and Arrangement  
Attorney Dkt. No.: NL000349  
Art Unit: 2131  
Examiner: Chen, S.

Mail Stop Appeal Brief- Patents  
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P.O. Box 1450  
Alexandria, VA 22313-1450

**BRIEF OF APPELLANTS**

This is an appeal from the Final Office Action dated March 17, 2005, rejecting claims

1-10. This Brief is accompanied by the requisite fee set forth in 37 C.F.R. 1.17 (c).

**REAL PARTY IN INTEREST**

Koninklijke Philips Electronics N.V. is the real party in interest.

**RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences.

**STATUS OF CLAIMS**

As filed, this case included claims 1-10. Claims 1-10 remain pending, stand rejected, and form the basis of this appeal.

## **STATUS OF AMENDMENTS**

An After-Final Amendment was filed on April 25, 2005 in response to the Final Office Action mailed March 17, 2005. The proposed amendments in the above-referenced After-Final Amendment were not entered by the Examiner.

## **SUMMARY OF CLAIMED SUBJECT MATTER**

The present invention discloses a method of embedding a watermark W (FIG. 2) in an information signal X (FIG. 1), such as a motion video signal. In particular, the present invention is configured to embed different versions W' of the same watermark W in successive portions of the information signal X, where the different versions W' of the watermark W are different with respect to a property (e.g., the phases of the Fourier coefficients) which is irrelevant for detection of the watermark (see, e.g., page 3, line 30 – page 4, line 20). A property randomizer 11 (FIG. 1) is used to produce a different watermark W' for each tile of an image (see, e.g., FIG. 3).

## **GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

1. Whether claims 1, 5, 6, 9, and 10 are unpatentable under 35 U.S.C. 103(a) over Applicants' alleged admitted prior art, hereafter "Applicants' Art," in view of Davis et al. (US 6,611,607), hereafter "Davis."
2. Whether claims 2, 3, and 7 are unpatentable under 35 U.S.C. 103(a) over Applicants' Art, Davis, and further in view of Liao et al. (U.S. 6,654,479), hereafter "Liao."
3. Whether claims 4 and 8 are unpatentable under 35 U.S.C. 103(a) over Applicants' Art, Davis, and further in view of Hayashi (U.S. 2003/0161496).

## ARGUMENT

### (1) Rejection of claims 1, 5, 6, 9, and 10 under 35 U.S.C. 103(a) over Applicants' Art in view of Davis.

#### Art in view of Davis.

Appellants respectfully submit that the rejection of claims 1, 5, 6, 9, and 10 under 35 U.S.C. 103(a) over Applicants' Art in view of Davis is defective.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

In this case, the rejection is defective because the cited references, taken alone or in combination, fail to teach or suggest each and every feature of the claims as required by 35 U.S.C. 103(a). In particular, regarding independent claim 1 (and similarly independent claims 6 and 10), the Examiner alleges that Applicants' Art "discloses a method of embedding a watermark in an information signal, comprising means for embedding said watermark in successive portions of the information signal." The Examiner further asserts that Applicants' Art "does not explicitly disclose embedding different versions of watermark and said versions being different with respect to a property which is irrelevant for detection of said watermark." To overcome this glaring deficiency, the Examiner relies on the disclosure of Davis. In particular, the Examiner alleges that Davis discloses that "different watermarks can be embedded into different frames using different transformations (Davis: column 6 lines 16-26)." The Examiner attempts to combine Applicants' Art and Davis by

stating that “[i]t would have been obvious ... to combine the teachings of Davis within the system of AAPA because it increases security of data using different watermarks on different portions of the information signal thus making it more difficult to analyze watermark patterns.” Appellants disagree with the Examiner’s analysis of Davis.

In claim 1, different versions of the **same watermark** are embedded in successive portions of an information signal. In Davis however, the embedder locates **different watermark messages** in different temporal portions of a time varying signal such as audio or video, **different watermark messages** in different spatial portions of images, graphical models, or video frames, or **different watermark messages** in different transform domains (e.g., Discrete Fourier Transform, Discrete Cosine Transform, Wavelet transform, etc.) of image or audio signals.” (Column 6, lines 16-26). Clearly, therefore, Davis discloses the use of different watermarks rather than **different versions of the same watermark** as claimed. Davis also fails to teach or suggest the use of different versions of the same watermark, wherein the different versions of the watermark are “different with respect to a **property which is irrelevant for detection of said watermark.**” This feature was not specifically addressed by the Examiner. In particular, the Examiner has not stated which property of Davis’ watermarks allegedly corresponds to the claimed “property,” nor has the Examiner disclosed where in Davis it is disclosed that such a property is “irrelevant for detection of said watermark.”

(2) **Rejection of claims 2, 3, and 7 under 35 U.S.C. 103(a) over Applicants’ Art, Davis, and further in view of Liao.**

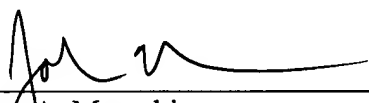
Appellants respectfully submit that dependent claims 2, 3, and 7 are allowable for reasons similar to those set forth above with regard to independent claims 1, 6, and 10.

**(3) Rejection of claims 4 and 8 under 35 U.S.C. 103(a) over Applicants' Art,  
Davis, and further in view of Hayashi.**

Appellants respectfully submit that dependent claims 4 and 8 are allowable for reasons similar to those set forth above with regard to independent claims 1, 6, and 10.

In summary, Appellants submit that claims 1-10 are allowable because the cited references, taken alone or in combination, fail to meet each of the three basic criteria required to establish a *prima facie* case of obviousness.

Respectfully submitted,

  
\_\_\_\_\_  
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## CLAIMS APPENDIX

1. A method of embedding a watermark in an information signal, comprising embedding different versions of said watermark in successive portions of the information signal, said versions being different with respect to a property which is irrelevant for detection of said watermark.
2. A method as claimed in claim 1, comprising the step of randomizing the magnitudes of the Fourier coefficients of said watermark.
3. A method as claimed in claim 2, wherein the watermark includes at least one basic watermark pattern being tiled over the portion of the information signal, said step of randomizing the magnitudes being applied to the Fourier coefficients of said basic watermark pattern.
4. A method as claimed in claim 1, comprising the step of randomizing the position of the watermark with respect to the respective portion of the information signal.
5. A method as claimed in claim 1, wherein said successive portions of the information signal are successive frames of a motion video signal.

6. An arrangement for embedding a watermark in an information signal, comprising means for embedding different versions of said watermark in successive portions of the information signal, said versions being different with respect to a property which is irrelevant for detection of said watermark.
7. An arrangement as claimed in claim 6, comprising means for randomizing the magnitudes of the Fourier coefficients of said watermark.
8. An arrangement as claimed in claim 6, comprising means for randomizing the position of the watermark with respect to the respective portion of the information signal.
9. An arrangement as claimed in claim 6, wherein said successive portions of the information signal are successive frames of a motion video signal.
10. An information signal with an embedded watermark, wherein successive portions of said signal have different versions of said watermark embedded, said versions being different with respect to a property which is irrelevant for detection of said watermark.



## **EVIDENCE APPENDIX**

No evidence has been submitted.

## **RELATED PROCEEDINGS APPENDIX**

There are no related proceedings.